THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 43

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte ROBERT J. MILLER and XUEJIAN XU

Appeal No. 1995-2560
Application 07/833,973[1]

ON BRIEF

Before WINTERS, GRON, and ROBINSON, Administrative Patent Judges.

GRON, Administrative Patent Judge.

[1] Application for patent filed February 11, 1992. According to applicants, this application is a continuation-in-part of Application 07/703,254, filed May 20, 1991, now abandoned; which is a continuation-in-part of Application 07/543,163, filed June 25, 1990, now U.S. Patent 5,017,229; which is a continuation-in-part of Application 07/100,104, filed September 18, 1987, now U.S. Patent 4,937,270.

DECISION ON APPEAL UNDER 35 U.S.C. § 134

This is an appeal under 35 U.S.C. § 134 from an examiner's final rejection of Claims 15-17, 19, 22-30, 50-52, and 70-83. The examiner has indicated that Claims 8, 31-35, 37, 38, 44-49, and 60-69 "are now allowable" (Examiner's Answer (Ans.), pages 1-2, bridging sentence). The Examiner's Answer does not mention the final rejection of Claims 18, 20 and 21, the only other claims still pending in the application. Therefore, we assume that the examiner did not intend to maintain the final rejection of Claims 18, 20 and 21.

Introduction

Claims 15-17, 19, 22-30, 50-52 and 70-83 stand finally rejected under 35 U.S.C. § 103 in view of the teaching of Zaffaroni, U.S. Patent 3,998,974, patented December 21, 1976. Contrary to the examiner's statement that "Appellant's brief includes a statement that claims 8, 15-35, 37, 38, 44-52 and 60-83 do not stand or fall together" (Ans., p. 3, first full para.), Appellants expressly stated, at least with respect to
the examiner's rejection of Claims 15-30, 50-52 and 70-83, that "these claims stand or fall together" (Appellants' Brief

(Br.), p. 8, first sentence).[2] Process Claim 15 and product-by-process Claim 70 are the broadest claims on appeal. They are reproduced below.

> 15. A method for making a water insoluble biocompatible composition, said method comprising combining, in an aqueous mixture, one or more polyanionic polysaccharides, a modifying compound, a nucleophile, and an activating agent under conditions sufficient to form said composition wherein said modifying compound causes the formation of a new active carbonyl groups on said polyanionic polysaccharide.
>
> 70. A water insoluble composition prepared according to the method of claim 15 or 16.

Discussion

Claims 15-17, 19, 22-30, 50-52, and 70-83 stand rejected under 35 U.S.C. § 103 in view of Zaffaroni's teaching. The examiner explains (Ans., pp. 5-6, bridging para., through pp. 6-7, bridging para., repeated verbatim at pp. 7-8, bridging para., through p. 9, first full para.):

> Zaffaroni discloses nonnutritive flavor imparting compounds of the general formula (F-Z)n-C wherein F is an active flavor imparting agent, C is a controlling agent for transporting and essentially restricting absorption of the compound (F-Z)n-C in a biological environment, Z is a covalent bond for bonding F to C and n is at least one. Zaffaroni discloses that the group C include

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[2] It is not clear from the Examiner's Answer why the examiner did not maintain the rejection of Claims 18, 20 and 21 under 35 U.S.C. § 103 in view of Zaffaroni's teaching.

polymer
and polymeric like material of naturally occurring and synthetic origin which include commercially available celluloses such as sodium carboxymethylcellulose (see column 14, lines 14 and 15). Zaffaroni further discloses methods whereby the covalent attachment of the flavor imparting agent to the polymer can be carried out. One method involve[s (sic)] forming covalent bonds by reacting
a pendant carboxyl group of a flavor imparting molecule with a hydroxyl, amine, mercaptan group or the like on the other reactant, wherein activation of a carboxyl group
can be effected by the reaction of a carboxyl group with various carbodiimides, carbodiimidazoles, Woodward's reagent
and the like to form highly active intermediates capable of reacting with other groups in the presence of a solvent
and under mild reaction conditions to yield the desired compounds (see column 16, lines 30-60). This method disclosed by Zaffaroni appears to be within the scope of the method claimed by the Appellants when the instant claimed polyanionic polysaccharide is carboxymethylcellulose
and the activating agent is a carbodiimide. . . .

The Zaffaroni Patent further discloses other ingredients that can be added to the nonnutritive flavor imparting compound which include the yolk of eggs, milk products, glutamic acid, glycine and alanine which are within the scope of the instant claimed nucleophiles disclosed in Claims 30 and 82 of the instant application which sets forth the nucleophile being selected from a group consisting of an amino acid amide, a monofunctional amine, an amino acid ester, an amino alcohol, and amino thiol, and amino phenol, an amino catechol, an amino acid,
a salt of an amino acid, a peptide, and a protein.

Also see column 25, lines 55-60, which discloses the flavor imparting compounds being combine[d, sic] with
medicinals and pharmaceutical formulations including

tablets, capsules, powders, lozenges, drops, elixirs, syrups, suspensions, oils, emulsions, and the like . . . .

Zaffaroni refers to the F flavor imparting or enhancing agent utilized to form the F group of his (F-Z)n-C compound as a "'flavor imparting agent', 'enhancer' or 'modifier'" (Zaffaroni, col. 4, l. 7-8; emphasis added). "These . . . include aliphatic aromatics, heterocyclics, and other compounds with different chemical structures such as alkaloids, terpene hydrocarbons, amides, oximes, benzenoids, fused rings, esters, ethers, acids . . . " (Zaffaroni, col. 4, l. 41-45). Zaffaroni also teaches at column 16, lines 7-29, that the polymer may be made to react "with a triazinyl substituted with both a halogen that reacts with the polymer and a nucleophilic substituent that reacts with a reactive functionality of the flavor imparting groups" (Zaffaroni, col. 16, l. 7-12) or "the flavor imparting group can be bonded to the polymer by conventional processes such as diazotization, by reacting an acyl halide, a carboxyl or anhydride group of a polymer with an amino, hydroxyl or sulfhydryl group integral with or bonded to a flavor imparting group in aqueous buffer media, inert organic or mixed solvents . . ." (Zaffaroni at column 16, lines 13-19).

We see no error in the examiner's determination that Zaffaroni generically describes a process comprising combining, in an aqueous mixture, one or more polyanionic polysaccharides, a modifying compound, a nucleophile, and an activating agent under conditions sufficient to form a composition wherein said modifying compound causes the formation of a new active carbonyl group on said polyanionic polysaccharide. However, appellants argue that "[w]ater solubility is an essential characteristic of the Zaffaroni compounds since this characteristic permits their use as food additives" (Br., p. 18, first para.). As support for the argument, appellants cite Zaffaroni's disclosure at column 1, lines 59-64, and column 2, lines 19-24.

The examiner responds that, because Zaffaroni contemplates
a method comprising combining, in an aqueous mixture, one of appellants' representative polyanionic polysaccharides, a modifying compound, at least one of appellants' representative nucleophile components, and at least one of appellants' representative activating agents, under conditions sufficient to form a composition wherein said modifying compound causes the formation of a new active carbonyl group on said

polyanionic polysaccharide, Zaffaroni would have suggested the processes and products by processes appellants claim to persons having ordinary skill in the art. To the contrary, appellants argue that Zaffaroni's teaching would have led persons having ordinary skill in the art to make and use water soluble compositions for flavoring foods, not water insoluble gels or films for use in surgical procedures (Br., p. 20, first full para.).

We fault both appellants and the examiner for their superficial reading of Zaffaroni. Moreover, appellants would have us consider the patentability of processes for making gels and films and products made by processes which are designed to make gels or films (Br., p. 20, first full para.), even though (1) Claims 15-30, 50-52 and 70-83 "stand or fall together" (Br., p. 8, first full sentence), and (2) appellants' broadest claims are not limited to processes for making gels and films and products made by processes which are designed to make gels or films.

Appellants have not shown that the examiner erred in finding that certain specific components Zaffaroni suggests for use in performing the processes he discloses for the utility he discloses and the products produced by those

processes are within the scope of components appellants teach are suitable for use in performing the processes they claim to make products for the utility they indicate. Nevertheless appellants argue that, unlike the final products made by processes comprising the steps of their claimed processes, the final products made by the processes described by Zaffaroni by combining what appears to be the same or substantially the same components are water soluble. If appellants' arguments are correct, our findings are inconsistent. In fact, they are not.

While we agree with appellants' argument that Zaffaroni's final products are all water soluble, Zaffaroni teaches that substantially water insoluble intermediate products which also are made by the processes he discloses must be converted to their water soluble form for use as flavor imparting agents. Thus,

we find that Zaffaroni describes not only direct processes for making water soluble nonnutritive flavor imparting compounds but also indirect processes for making water soluble nonnutritive flavor imparting compounds by producing substantially water insoluble precursor or intermediate compounds and thereafter chemically improving their water

solubility. For example, Zaffaroni preliminarily states, "The compounds of the invention preferably are water soluble and in use pass through the length of the gastrointestinal tract without degradation and without being absorbed from said gastrointestinal tract into the body of the host" (col. 1, l. 27-31; emphasis added). Later, Zaffaroni teaches:

> The compounds of the invention bearing a basic group, such as amino or the like, can be converted to non-toxic acid addition salts having improved aqueous solubility to enhance their use in foods, beverages and medicines.

(col. 18, l. 4-8);

> The nonnutritive flavor imparting compounds and intermediates used to prepare same when bearing at least one carboxyl functionality can also be used in the form of their base addition salts that have improved solubilities in aqueous media and other carrier systems.

(col. 18, l. 26-30);

> The solubilities of the nonnutritive flavor imparting compounds, or of intermediates leading thereto, also can be regulated by acylating the free hydroxyl group of the compound or the polymer or both.

(col. 18, l. 58-62); and

> The hydroxyl group attached to a nonnutritive flavor imparting compound, a polymer or an intermediate can optionally be etherified to form ether derivatives that have desirable solubilities in various media, carriers, foods, beverages and medicines.

(col. 19, l. 34-38).

Appellants emphasize the distinction between the water insoluble products produced by the processes they claim and the water soluble products Zaffaroni uses as nonnutritive flavor imparting agents (Br., pp. 18-20). Had appellants considered all the teaching of the reference, they would have learned, as persons having ordinary skill in the art have learned from reading the entire prior art disclosure, that Zaffaroni discloses (1) methods for making water soluble nonnutritive flavor imparting compounds, and (2) methods for making substantially water insoluble precursor or intermediate compounds whose aqueous solubilities can be chemically improved for use as nonnutritive flavor imparting compounds.

Prior art must be considered for everything it would have disclosed to persons having ordinary skill in the art, including nonpreferred embodiments. In re Burckel, 592 F.2d 1175, 1179, 201 USPQ 67, 70 (CCPA 1979); In re Lamberti, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976). Here, as in In re Plockinger,

481 F.2d 1327, 1332, 179 USPQ 103, 106 (CCPA 1973):

> . . . [*A*]*ppellants* introduced the issue of criticality in order to rebut any prima facie case of obviousness established . . . . In order to determine the propriety of the rejection, this [Board] . . . must be able to examine the evidence to determine whether, and to what

> degree, the criticality contended for by appellants exists.

That the teaching of the primary reference upon which the examiner relies and the reasons the examiner provided in the Answer for maintaining the final rejection differ from the teaching in the same reference which we highlight on consideration of the teaching of the reference as a whole, and our basis for holding the subject matter claimed in this case unpatentable, is insufficient to stay our review of the examiner's final decision on unpatentability over the evidence on appeal. To quote Judge Markey writing for the court in In re Grose, 592 F.2d 1161, 1165, 201 USPQ 57, 61 (CCPA 1979), "We review the decision, not the reasoning . . . ." Accordingly, we affirm the examiner's decision to finally reject Claims 15-17, 19, 22-30, 50-52 and 70-83 under 35 U.S.C. § 103 in view of the teaching of Zaffaroni.

Conclusion

The examiner's decision to finally reject Claims 15-17, 19, 22-30, 50-52 and 70-83 under 35 U.S.C. § 103 in view of the teaching of Zaffaroni is hereby affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

Affirmed

Sherman D. Winters Administrative Patent Judge	)	
Teddy S. Gron Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
Douglas W. Robinson Administrative Patent Judge	)	

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Appeal 1995-2560
Application 07/833,973

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